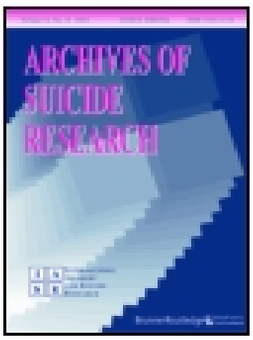

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"These Things Don't Work." Young People's Views on Harm Minimization Strategies as a Proxy for Self-Harm: A Mixed Methods Approach

Ruth Wadman, Emma Nielsen, Linda O'Raw, Katherine Brown, A. Jess Williams, Kapil Sayal, and Ellen Townsend

Although UK clinical guidelines make tentative recommendations for "harm minimization" strategies for repeated self-harm, this is in the absence of empirical evidence supporting their acceptability or effectiveness. We explore young people's views of harm minimization strategies (e.g., snapping elastic bands on skin, drawing on skin with red ink), as a proxy for self-harm. In this mixed methods study we examine data (secondary analysis) from: (1) an online questionnaire (N = 758) observing the frequency of these strategies being used as a form of self-harm, and as a form of alternative coping (viewed as distinct from self-harming), and (2) semi-structured interviews (N = 45), using thematic analysis to identify themes related to harm minimization. Predominant themes suggest that many young people viewed harm minimization strategies as a proxy for self-harm as ineffective. Where such strategies were reported as helpful, their utility was reported to be short-lived or situation-specific. Findings from both studies indicate that some young people described using harm minimization (e.g., elastic band snapping) as a form of self-harm (e.g., to break the skin). Harm minimization strategies should not be recommended in isolation and their use must be monitored. Further research is urgently needed to develop an evidence base that informs practice.

Keywords adolescence, harm minimization, nonsuicidal self-injury, self-harm, suicide

Self-harm (any act of self-poisoning or self-injury irrespective of motivation or intent) affects approximately one in every five to ten adolescents and is indicative of psychological distress, often repetitive, and strongly associated with future suicide risk (Burns, Dudley, Hazell, & Patton, 2005; Chan et al., 2016; Doyle, Treacy, &

Sheridan, 2015; Madge et al., 2008). Self-harm is a common reason for young people presenting to general hospital and specialist mental health services (Shanmugavadivel, Sands, & Wood, 2014; Stafford, Hutchby, Karim, & O'Reilly, 2014). However, the majority of self-harm episodes do not receive medical attention. Using the Multicentre Study of Self-harm hospital monitoring data, national mortality data and community data derived from a school-based study, Geulayov et al. (2018) estimated that for every young person (12–17 years) who dies by suicide, approximately 370 young people present to general hospital emergency departments following an episode of self-harm, and 3,900 adolescents self-harm in the community[1]. Thus self-harm often remains hidden with young people preferring to seek help informally from peers and family, or indeed not disclosing their self-harm to anyone (McDougall, Armstrong, & Trainor, 2010; Rowe et al., 2014). It is vital to ensure that adolescents can access the most appropriate clinical supports available.

The use of "harm minimization" strategies for self-harm is advocated both in clinical practice and in readily available sources of information regarding self-harm management and recovery in the public sphere (e.g., websites, help sheets, support groups). Currently, a clear definition of what harm minimization for self-harm actually constitutes is lacking (See National Collaborating Centre for Mental Health, 2011, pp. 256 for discussion), but the majority of harm minimization strategies for self-harm appear, *in practice,* to relate to four broad categories given in Table 1. These categories were devised by the authors based on the use of the term in self-harm peer-reviewed and gray literature. These harm minimization strategies aim to either replace self-harm with a "safer" proxy behavior, or to reduce the medical severity of self-harm.

NICE (National Institute for Health and Care Excellence) clinical guidelines in the UK make tentative clinical practice recommendations for harm minimization in cases where self-harm is likely to be repeated - as part of a broader multidisciplinary approach and with the clear message that self-poisoning with any substance cannot be done 'safely' (National Collaborating Centre for Mental Health, 2011). This recommendation was based on a very small number of studies: an audit of self-harm incidents in women's units operating a positive risk-taking approach to self-harm (Birch, Cole, Hunt, Edwards, & Reaney, 2011); a retrospective analysis of self-harm incidents on an adolescent inpatient unit following the introduction of a policy advocating harm minimization (Livesey, 2009); and a study of professionals' and service users' views of harm minimization in the development of a self-harm handbook for primary care (Pengelly, Ford, Blenkiron, & Reilly, 2008). No Randomized Control Trials (RCTs) or cohort studies have evaluated the therapeutic value of harm minimization in any age group, and no studies constituted "evidence" according to the criteria outlined for the NICE guidelines. Thus, recommendations were based on the weight of empirical support for harm minimization approaches in other fields. There remains a paucity of evidence assessing the effectiveness and application of these strategies or identifying individual characteristics which might contribute to any success of the approach (National

[1]Of note, these estimates vary dependent on age (12–14 years versus 15–17 years) and gender (male versus female)

TABLE 1. **Taxonomy of Harm-minimization Strategies for Self-harm**

Strategy	Description	Examples
Sensation proxies	Strategies that aim to replace existing self-harm with "safer" proxies of the physical sensation.	Snapping elastic bands against the skin, squeezing ice cubes.
Process proxies	Strategies that aim to replace existing self-harm with "safer" proxies of the process/experience around self-harm.	Drawing red lines on the skin in the places you would otherwise cut.
Harm reduction	Strategies that aim to ensure that the same method of self-harm has less medically severe consequences.	Considering the location of injuries to minimize potential adverse medical consequences (and the provision of basic anatomical information to facilitate this), using sterile blades.
Damage limitation	Providing information around the management of injuries.	Wound care (promoting healing and reducing the risk of infection), self-management of less medically severe injuries, appropriate help-seeking.

Note. Although conceptualizations of harm minimization vary in scope and operationalization, notions typically emphasize a practical and nonjudgmental approach—to maximize safety, empowerment and self-management—while neither encouraging nor condoning self-harm. In broader definitions, "harm minimization" may include: reducing access to potential means of self-harm (such as limiting access to medication, the removal of sharp objects) (McDougall, Armstrong, & Trainor, 2010), and avoiding intoxicants that have the potential to lower inhibitions (National Collaborating Centre for Mental Health, 2011). Coping and distraction—strategies that aim to delay behavior engagement, support alternative coping strategies, self-soothing, or distraction (such as listening to a favorite song or taking a bath)—may also be viewed, by some, to fall under the umbrella of "harm minimization" for self-harm. Recently, it has been suggested that sensation and process proxies of self-harm may be viewed as—or termed—"substitution" methods, as opposed to the more commonly used phrases of "harm-reduction" or "harm minimization" strategies (Dickens and Hosie, 2018).

Collaborating Centre for Mental Health, 2011; Fish, Woodward, & Duperouzel, 2012). The guidelines suggest the need for studies to investigate different approaches to harm reduction following self-harm in clinical settings, including service users' experiences (National Collaborating Centre for Mental Health, 2011).

The focus of this study is harm minimization strategies as sensation or process proxies for self-harm (e.g., snapping elastic bands on skin, drawing on skin with red ink – see Table 1). Such strategies are often advocated as an alternative to self-harm, but there are also concerns that they are potentially risky (Livesey, 2009; Pengelly et al., 2008). Given the lack of research examining harm minimization strategies to simulate or replace self-harm, this paper draws on the views of young people (11- to 25-year-olds) with experience of self-harm, utilizing data from two studies undertaken concurrently by the same UK-based research group. Study 1 presents data from a large online survey about self-harm, in which behaviors which could be regarded as harm minimization strategies (understood for the purposes of this study as *sensation or process proxies*) were identified during descriptive analysis and quantification of: (1) open-ended responses to the "other" self-harm category of the self-harm inventory, and (2) during the description of coping behaviors used to

deal with the most significant recent stressor faced (last 3 months). In Study 2, secondary thematic analysis was used to explore young people's perceptions of harm minimization strategies reported in qualitative interviews focused broadly on the experience of self-harm and stopping self-harm. This exploratory mixed methods approach (convergent design) is a suitable first step in a greatly under-researched area (Creswell & Plano Clark, 2011). Secondary data analysis allows researchers to use existing data to answer new research questions beyond the primary focus of the original research and can provide novel insights from in-depth and time-consuming research with 'hard-to-reach' groups (Owens, Hansford, Sharkey, & Ford, 2015). Given the evidence gap regarding harm minimization for self-harm, it is appropriate to utilize secondary analysis of both qualitative and quantitative data to explore young people's perceptions on this topic (Creswell & Plano Clark, 2011).

STUDY 1: SURVEY STUDY

Study 1 explored whether young people with a history of self-harm reported harm minimization used: (1) as a form of self-harm, or (2) as a form of coping, which was not considered to be self-harm, when not explicitly prompted.

METHOD

Participants

Participants ($N = 758$) were selected from a larger study and were eligible for inclusion if: (1) they were aged between 16 and 25 years ($M = 17.78$, $SD = 2.12$) and, (2) reported having ever self-harmed. The majority of the sample was female (86.4%; male, 9.0%; not disclosed, 4.6%). Primary analysis of these data is reported elsewhere (Nielsen, Sayal, & Townsend, 2016; Nielsen, Sayal, & Townsend, 2017). These primary analyses investigated: (1) the relationship between experiential avoidance, functional coping dynamics, and the recency and frequency of self-harm, and (2) whether coping predicts self-harm experience (no self-harm experience; ideation; enactment), in those with a history of self-harm.

Procedure

Self-report questionnaires were administered via a cross-sectional online survey. The community-based sample was recruited through social media (e.g., Twitter, Facebook), online platforms (e.g., Reddit), e-mail listings (e.g., Self-injury Support UK), poster advertisements and the School of Psychology Research Participation Scheme. The study was advertised as "part of an on-going project investigating coping function and self-harmful behaviors." Although all advertising materials highlighted that we were "recruiting participants who have never self-harmed, as well as those who have," we deliberately adopted a recruitment strategy in order to achieve a sufficiently large sample of people with a history of self-harm to meaningfully conduct our planned analyses with adequate statistical power.

This study protocol was approved by the departmental Research Ethics Committee. All participants provided written informed consent online.

Measures

Age and gender demographics were captured.

Self-harm. The Inventory of Statements about Self-Injury (ISAS; Section 1) was administered to assess lifetime history of

self-harm (Klonsky & Glenn, 2009). This captures the frequency of engagement across 12 behaviors (e.g., banging/hitting self, biting, burning). Importantly for our current aim, the measure includes an "other" self-harm category, allowing free text report of self-harm behaviors. These data were analyzed in the present study. The need for the self-harm to have been enacted in the absence of suicidal intent was omitted, given that recent empirical evidence suggests a continuum of suicidal intent (Orlando, Broman-Fulks, Whitlock, Curtin, & Michael, 2015).

Coping. The Functional Dimensions of Coping scale (FDC) (Ferguson and Cox, 1997) was administered to capture a stressful or distressing situation that participants had recently faced (last 3 months). Importantly for the aims of the current study, the measure permits for free response reporting of individual coping responses (e.g., cognitions, behaviors). Reponses to section 2 ("This section concerns the behaviors you adopted in attempting to deal with the major stressor you described above. There are many different ways of dealing with stress. In the space provided below I would like you to give a brief description of those activities and/or thoughts you used in attempting to deal with the event described above.") were analyzed in the present study.

Data Analysis. The self-harm behaviors reported in the ISAS "other" category were examined and categorized by EN, in order to assess the frequency with which behaviors commonly considered harm minimization strategies (sensation proxies, process proxies) were reported by young people as forms of self-harm. All responses could be categorized. In order to retain the specific details of the "other" behaviors described by respondents, many behaviors were categorized individually (i.e., frequency of one) rather than collapsing into broader categories. Multifaceted behaviors were indicated in more than one category. Lifetime frequency of engagement in these behaviors was also considered. The coping responses reported in the FDC were reviewed and any responses that could be considered harm minimization strategies (as sensation or process proxies) were flagged. These responses were then categorized in order to assess the frequency with which sensation and process proxies (e.g., elastic band snapping, drawing on skin with red pen) were reported as coping responses, but were not considered to be a form of self-harm, by young people. All these responses could be categorized into discrete categories.

RESULTS

The majority of the sample reported high frequencies of self-harm. Over 40% ($n = 336$, 44.3%) of participants reported 101–500 self-harm episodes during their lifetime, with a third ($n = 250$, 33.0%) having self-harmed more than 500 times. Around 20% of participants reported engaging 100 times or less (1–5 episodes, 1.5%, $n = 11$; 6–50 episodes, 10.6%, $n = 80$; 51–100 episodes, 10.7%, $n = 81$).

Self-cutting was the most frequently reported method of self-harm (91.8%) with interfering with wound healing, severe scratching and banging or hitting oneself also being highly prevalent. More than one-third of participants reported having swallowed dangerous substances (See Table 2).

TABLE 2. **Self-harm Methods Reported by Participants in Study 1 and Study 2**

Self-harm method (ever used)	Study 1 ($N = 758$) Percentage	Study 2 ($N = 45$) Percentage
Cutting	91.8% [¤]	91.1%
Interfering with wound healing	77.2%	22.2%
Severe scratching	73.6%	44.4%
Banging or hitting self	72.3%	46.7%
Pinching	60.8%	—
Biting	58.2%	24.4%
Burning	52.1%	31.1%
Pulling hair	48.7%	15.5%
Carving	38.4%	—
Self-poisoning[a,b]	36.0%	60.0%
Rubbing skin against rough surfaces/glass/sandpaper	35.2%	11.1%
Sticking self with needles/sharp objects	34.6%	20.0%
Other	16.0%	28.9%

Note. Participants indicated self-harm behaviors that they had ever engaged in—therefore, many participants are indicated in more than one group. Different self-harm checklists were used in Study 1 and Study 2. [¤] $n = 757$ (one participant did not complete this item).
[a]In Study 1, this item was phrased as, "swallowing dangerous substances."
[b]In Study 2, this item was phrased as "poisoning yourself/'overdose.'"

Harm Minimization Viewed as a Form of Self-harm

Overall 121 participants (16.0%) reported an "other" behavior which they viewed as self-harm, in response to the lifetime ISAS. One hundred and eleven of these participants indicated what this "other" self-harm behavior was (see Table 3). The majority of these related to eating behaviors (food restriction, binging and purging, "eating disorder," Diabulimia). The next most commonly reported "other" self-harm behavior was snapping elastic bands against the skin (16.2%, 2.37% of the total study sample). Fifteen participants gave an indication of lifetime frequency of engaging in harm minimization strategies as self-harm, reporting engaging in these behaviors between 1 and 1,000 times, representing between 0.5% to 46.5% of their total lifetime self-harm. Thus, reports of snapping an elastic band as a form of self-harm were characterized by these participants as being a repetitive or indeed continuous act, arguably at odds with the intended purpose of such strategies. Of note, one participant who did not provide a lifetime frequency estimate for engaging in sensation proxies which they considered to be self-harm, indicated "snapping myself with a rubber band continuously." [ID 799].

There is No Safe Overdose; Interpretation of "Dangerous Substances"

It is pertinent to note that eight participants reported overdoses within the ISAS "other" category, indicating that they consider this behavior to be self-harm but do not consider this to fit with the description of "swallowing dangerous substances" (three of the eight participants reported "swallowing dangerous substances" in the

TABLE 3. **"Other" Self-harm Reported in Study 1 (Percentage of those who completed the open-ended "other" self-harm question, n = 111[a])**

"Other" self-harm methods (ever used)	Percentage	Frequency (*n*)
Food restriction	21.6	(24)
Purging and binge/purge behaviors	20.7	(23)
Snapping elastic bands against the skin	16.2	(18)
Peeling or picking at skin/ ripping nails until they bleed	11.7	(13)
Digging nails into the skin	8.1	(9)
Overdosing	7.2	(8)
Ligating/ self-strangulation	6.3	(7)
Self-stabbing	2.7	(3)
Bruising	3.6	(4)
Hitting hard surfaces	1.8	(2)
Alcohol	1.8	(2)
Provoking others or allowing oneself to be injured by others (including animals)	1.8	(2)
Taking painfully hot baths or showers	1.8	(2)
Breaking bones	1.8	(2)
Salt and ice burns	1.8	(2)
Illicit drug use	1.8	(2)
Holding of breath (until losing consciousness)	1.8	(2)
Cigarette or match burns	0.9	(1)
Smoking	0.9	(1)
Sleep deprivation	0.9	(1)
Walking barefoot across rough ground	0.8	(1)
Taking ice baths	0.9	(1)
Exercising until losing consciousness	0.9	(1)
Bending fingers back	0.9	(1)
Self-scalding	0.9	(1)
Damaging eyes (by staring at a light source)	0.9	(1)
Diabulimia	0.9	(1)
Eating disorder (not specified)	0.9	(1)
Purposely cutting hair ("to disfigure")	0.9	(1)
Pulling away from one's family	0.9	(1)
Biting one's tongue and cheeks	0.9	(1)
Self-drowning (attempted)	0.9	(1)
Denying self of adequate warmth (e.g., sufficient clothing)	0.9	(1)
Inhaling dangerous chemicals	0.9	(1)
Dangerous sexual behaviors	0.9	(1)

Note. Participants indicated all "other" self-harm behaviors which they had ever engaged in – therefore, many participants are indicated in more than one group. Multi-faceted behavior may be indicated in more than one category —for example, "*snapping elastic bands*/hairbands on my wrist 'til it leaves a bruise." [ID 854] is indicated in both snapping elastic bands and bruising. Individuals who reporting "choking" themselves ($n = 5$) were included within ligation/self-strangulation category.

[a]A further 10 participants indicated "other" self-harm (and frequency in engagement) in the self-harm checklist; however, they did not indicate what their "other" self-harm behavior(s) were.

inventory checklist, and also reported overdosing as an "other" form of self-harm). Given the safety ramifications of this (and wide agreement that self-poisoning cannot be carried out safely), the content of these individual responses were examined again (by EN). This closer examination suggests a lack of clarity regarding the dangerousness of substances, particularly medications which are readily available (e.g., over the counter medications, medications commonly stored within the home) or obtained via prescription. For example, one respondent wrote *"intentional prescription overdose"* as "other" self-harm, but did not report this behavior as "swallowing dangerous substances" in the ISAS. Another respondent specifically noted this confusion, stating *"Not sure if fits with "dangerous substances", but intentional overdoses of over-the-counter medicines."*

Harm Minimization Viewed as a Form of Coping

Harm minimization was infrequently referred to in participants' discussions of their coping responses to a recent stressful or distressing situation; only seven participants (0.9% of the study sample) reported harm minimization, as understood for the purposes of this study (sensation or process proxies for self-harm). Of these, the majority ($n = 6$) reported the sensation proxy of snapping an elastic band against the skin. One participant reported using a process proxy (marking areas of the body which would have been cut with a red marker pen). Of the seven participants who reported harm minimizations strategies in their coping responses, only four (0.5% of the study sample) did not consider this to be a form of self-harm.

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STUDY 2: INTERVIEW STUDY

METHOD

Participants

Young people aged 11–21 years who had self-harmed in the past six months were recruited in the East Midlands (UK) from Child and Adolescent Mental Health Services (CAMHS), Children's Social Care Services and in the community. Forty-five young people completed interviews with the primary aim of comparing experiences of self-harm in young people looked-after in residential or foster care ($n = 24$) with young people with no experience of being in care ($n = 21$). Primary analyses of these data using Interpretative Phenomenological Analysis are reported elsewhere (Wadman et al., 2016, 2017, 2018). The present analysis focuses on those participants who reported some experience of harm minimization strategies as a proxy for self-harm during their interview ($n = 29$), see Analysis section for further details).

Informed consent was obtained from participants, parents/carers and social workers as appropriate. Ethical approval was given by the Social Care Research Ethics Committee (NHS Health Research Authority) and the departmental Research Ethics Committee.

Interviews

Participants took part in semi-structured interviews about their experience of repeated self-harm, stopping self-harm and services and supports available. Participants were individually interviewed in 2014 at their home, university or a local volunteer center. Participants were interviewed by RW, who had extensive experience interviewing young people.

The interview schedule was devised with input from an advisory group of young people with experience of self-harm. Towards the end of the interview the participants were asked a series of questions around stopping self-harm and self-harm recovery. Example questions are: "*What might stop you from hurting yourself?*" and "*Can anything stop you once the idea has taken hold?*". Often, harm minimization strategies were discussed in response to these questions. Importantly for the present aim, participants were specifically asked about their experience of using harm minimization strategies if they did not discuss this unprompted. The example of snapping a rubber band on the wrist was given only *if* clarification was needed (and was given in 18 cases; 40%). The interviews were 17 to 82 minutes in length ($M = 34$ minutes) and were audio-recorded and transcribed.

Participants were aged between 13 and 21 years ($M = 17$ years) and six were male. The majority of participants (78%) were White British. Methods used to self-harm were reported (checklist adapted from Gratz, 2001; Table 2). Participants were asked an open-ended question about self-harm frequency and most (80%) reported periods of fluctuating frequency over years (e.g., self-harming daily at worst and then stopping for a number of months).

Analysis

Thematic analysis was used to identify inductive themes related to the experience of using harm minimization strategies (Braun & Clarke, 2006). This was undertaken by LO, who had research experience in qualitative methods and with young people who self-harm. LO had not been involved in the interview data collection.

The first step of the analysis was to highlight those sections of the interview transcripts that related to harm minimization. The content of these extracts was reviewed in order to determine if they related to perceptions of the harm minimization strategies of interest in this study (as sensation or process proxies). Interview transcripts from 29 participants contained codable extracts relating to harm minimization as a self-harm proxy, and in total there were 37 codable extracts (as some participants discussed such strategies at more than one point in their interview). Eight participants talked about harm minimization in terms of distractions only (e.g., going for a walk, listening to music) rather than as a (sensation or process) proxy for self-harm, and so these responses were not coded and were not included in the analysis. Six participants did not say anything about harm minimization (as understood for the purposes of this study—sensation or process proxies for self-harm) and two participants explicitly stated they had

never used them. Again, these responses were not coded and not included in the analysis. Thus, the majority of participants (29/45, 64.4%) had experienced using harm minimization as a proxy for self-harm. The analysis focuses on these 29 participants.

A thematic analysis was completed by LO on the identified interview extracts, following the phases of thematic analysis set out by Braun and Clarke (2006): (1) familiarization with the data (reading and rereading the data, noting down initial ideas); (2) generating initial codes and collating data relevant to each code; (3) collating codes into themes and gathering all data relevant to each potential theme; (4) reviewing the themes and checking if they map onto the original coded extracts; (5) generating clear descriptions and names for each theme. The themes were derived from the data (rather than being identified in advance).

To establish the reliability of this initial analysis, the coded extracts (a total of 37 extracts from 29 participants) were presented, unlabeled, together with the theme descriptions to KB (who was blind to the original coding and analysis) and the percentage agreement between the two coders was calculated. The extent to which KB's matching of extracts to themes agreed with LO's initial analysis was borderline acceptable (< 70%). These discrepancies were discussed by RW and EN, with further development and structuring of the themes, and their descriptions, to resolve disagreements. The reliability of the revised set of themes was then checked, as before, by AJW. There was a good level of agreement between raters (AJW matched 31 of the 37 extracts to the same theme as the original coder LO -31/37; 83.8%).

RESULTS

Three themes relating to perceptions and experiences of harm minimization used as a proxy for self-harm are described. Table 4 gives additional quotes exemplifying these themes.

1. Harm minimization strategies (as a proxy for self-harm) are perceived to be ineffective

> *"They give you leaflets about 105 ways to stop harming and things, but it's like I've tried the laggy [rubber] band, I've tried drawing on myself, I've tried the ice. And it's like, these things don't work"* [ID 21].

Many of the young people interviewed described harm minimization strategies as ineffective: *"I've tried to do it so many times, it doesn't work"* [ID 29], "*she said you can either hold an ice cube in your hand for as long as you can, or rubber band, or get a red pen and draw on you instead, but it doesn't work"* [ID 30]. Additional illustrative quotes are given in Table 4. In some cases, these strategies did not prove an effective alternative for either the physical sensation or process of self-harm: "*… sometimes, as much art and pinging elastic bands you can do, there's nothing quite like the feeling you get from self-harming"* [ID 28].

> "*I think the one where you draw on yourself with red pen, I think that's completely ridiculous… they were saying some people who self-harm do it because they like to see the blood… but also they need the pain as well, so that one was quite pointless*" [ID 21].

Some young people explained that the harm minimization strategies did not address the underlying issues associated with their self-harm and thus did little to help them stop:

> *"And they [Child and Adolescent Mental Health Services] were really useful about*

TABLE 4. **Additional Quotes Exemplifying Themes Identified in Study 2**

Themes	Quote [participant ID]
1. Harm minimization strategies (as a proxy for self-harm) are perceived to be ineffective.	*"… they're useless"* [ID 05]
	"*I think it didn't work*" [ID 14]
	"*I haven't given distraction techniques much of a chance, I mean I've tried a few and I've tried the elastic band thing but that for me it hasn't worked*" [ID 17]
	"… well, I didn't carry it [harm minimization] on, so… " [ID 27]
	"*People were like 'here's a red pen, here's some elastic bands,' and I just couldn't do that"* [ID 28]
	"*Crunching ice is a rubbish one. I've tried to do it so many times, it doesn't work"* [ID 29]
	"*Doesn't work… using red pens or ice, no it's not the same, it does not work. I have tried it, it does not work"* [ID 34]
	"*Personally, the red pen doesn't work, it just encourages me to draw on my hand"* [ID 37]
	"*Done all that… none of those work… I don't know why they just didn't work for me"* [ID 39]
	"*It just wouldn't work"* [ID 41]
	"*Because you put it [self-harm] back and you're like "I'm going to do it harder and harder" and then it's just like, it gives you that tingly feeling to go to the extra level*" [ID 43]
2. Harm minimization strategies are helpful (to some limited extent)	"*I have got like loom bands and I flick them against my wrist… that really helps"* [ID 12]
	"*I've had an elastic band on my wrist before… [it] hurt but it was, helped a bit, but that's really it"* [ID 20]
	"*The elastic band, did [work] for a few months when I was younger. Then that sort of wore off, so then like, I've got a little scar there where I kept a really tight bobble on me for two weeks. Thinking "oh that might help" but it didn't"* [ID 21]
	"*But you know the elastic band it did help whilst I was out and I still do use it if I feel rubbish… so I will have like a hair bobble, like even this my loom band, I keep it on me cause obviously nobody's going to think twice about having a loom band on cause everybody's wearing them but if I'm feeling rubbish I just I'll just twing it and although it doesn't hurt that much it's almost like the actions of doing it"* [ID 22]
	"*It was alright, I mean the ice cube one was [pause] alright, it doesn't really compare, it's not quite the same [as self-harm] they're alright; they're good for what they are"* [ID 32]
3. Harm minimization strategies as self-harm	"*I end up making them a method of self-harm"* [ID 05]
	"… tried red biro but eventually you just pierce the skin anyway" [ID 20]
	"*And then the ice, I turned it into salt and ice; so that's kind of harming yourself, you know when you put the salt on you and then it melts into your skin. That didn't work"* [ID 21]
	"*I do use rubber bands sometimes but then I found, they started to mark, well I was doing it and they made my arm bleed and bruise"* [ID 29]

Note. Participants could be mapped to more than one theme. Codable extracts were available for 29 participants. Eight did not report using harm minimization strategies (as understood for the purposes of this study—*sensation or process proxies for self-harm*), and eight reported distraction techniques only (rather than harm minimization strategies as a proxy for self-harm).

> *it, like tried to give me different ways, so like elastic bands and ice cubes and things like that. But I don't think it ever dealt with the core problem which is why I'm still doing it [self-harm]"* [ID 01].

Furthermore, some young people expressed a reluctance to use harm minimization strategies: *"I thought it [harm minimization] was all just a waste of time, even now I just feel like it's a lie because I don't want to do this, I'd rather just cut myself"* [ID 45]. One reason for not wanting to use harm minimization was that it would lead them to self-harm more severely eventually *("Because you put it [self-harm] back and you're like "I'm going to do it harder and harder" and then it's just like, it gives you that tingly feeling to go to the extra level"* [ID 43]). Another participant explained that they did not think before acting to self-harm and so *"probably wouldn't have even thought about putting a suggestion to use until after it [self-harm] happened"* [ID 08].

Thus, harm minimization strategies as a proxy for self-harm were not perceived to be effective by a considerable proportion of young people interviewed.

2. Harm Minimization Strategies are Helpful (to some limited extent)

> *"Whenever I feel the need to self-harm or something, I twist it [elastic band] around my arm to get, to get the pain to get it out and not physically harm me"* [ID 42]

As shown in Table 4, a number of young people reported harm minimization strategies to be helpful. However, only two participants spoke about harm minimization (specifically band snapping) in solely positive terms [ID 12, ID 42]. More commonly, the extent to which young people reported such strategies to be helpful was limited, for example, harm minimization strategies were described as only working in the short-term or delaying self-harm for a short period of time: *"I've tried that and it did work for a little bit, but then I lost my elastic bands and I couldn't find anymore"* [ID 16]; *"… the elastic band thing did work for a while but it came to a point that I was getting too miserable, that I actually broke the band because I'd been doing it too much, just went for the scissors instead"* [ID 37].

Interestingly, some participants also reported using harm minimization strategies effectively in situations where they could not easily self-harm in other ways, for example, at school:

> *"Sometimes I used to use elastic band. If I was in a lesson and if I was feeling… like I really, really wanted to cut and I'd have to go to school, and I'd be in a lesson and I would use a loom band"* [ID 38].

3. Harm Minimization Strategies as Self-harm

> *"I tried the one with the pen … where you draw red lines on you, but that turned into self-harm … I started digging it in"* [ID 13].

A small but notable proportion of young people reported using harm minimization strategies in order to actually self-injure, for example, using elastic bands or red pens to break the skin (see Table 4). The use of harm minimization strategies in this way was viewed as being at odds with the intended aims of such strategies: *"[when] I had an elastic band I'd keep pinging it and pinging it and pinging it until like it'd finally break my skin, so it kind of defeated the object anyway"* [ID 26]. This inevitably led young people to question the utility of the harm minimization strategies recommended to them: *"People say it's like a coping mechanism to, like, snap an elastic band on your wrist. I do it until it like makes my hands swell up. So I don't*

think that's really a coping mechanism" [ID 05].

DISCUSSION

This secondary analysis of quantitative survey and qualitative interview data brings together evidence relating to young peoples' perceptions of harm minimization strategies for self-harm, specifically sensation and process proxies. Secondary analysis of the quantitative survey data benefits from a large sample focusing on open-ended reports of behaviors regarded as "other" self-harm. Analysis of these responses suggests that: (1) a small but notable proportion of the young people reported "snapping elastic bands on the wrist" (harm minimization as a sensation proxy) as a form of self-harm (indeed this was the second most commonly reported "other" form of self-harm, after eating-related behaviors), and (2) overdoses, particularly of over-the-counter and prescription medicines, are not always regarded by young people as being dangerous. Analysis of the description of coping responses employed by young people in response to a stressful or distressing situation indicates that harm minimization strategies (sensation and process proxies) are very infrequently referred to as a behavioral coping response to help young people deal with difficult situation; only four participants (0.5% of the study sample) reported that they used a harm minimization strategy (sensation proxy, $n = 3$; process proxy, $n = 1$), but did not consider this to be a form of self-harm.

Prominent themes that emerged from the qualitative interview data indicate that: (1) harm minimization strategies were viewed as ineffective, with some young people expressing reluctance to use such methods as well as concerns that they do not address underlying issues related to self-harm; (2) although some young people report harm minimization to be helpful, this utility is limited to a short time frame or to situations where other methods of self-harm cannot be used; and, (3) a small number of young people use harm minimization strategies to self-harm, for example, to break the skin (which may explain why some young people reported harm minimization to be a form of self-harm in the quantitative survey). The young people's experiences with harm minimization need to be considered in the context of these strategies being widely recommended by clinical services and how this could be perceived by young people (e.g., being repeatedly asked to try strategies that "do not work").

To date, very little research has explored how individuals who self-harm, or healthcare professionals, view harm minimization strategies. A structured interview study found relatively few young people (< 9%) reported using sensation or process proxies to resist the urge to self-harm (instead turning to others and receiving emotional support were generally reported to be helpful) (Klonsky & Glenn, 2008). Research exploring healthcare professionals' views indicates that formulating plans around harm minimization strategies is seen as promoting empowerment, ensuring that the young person is an active participant in their own recovery (Tofthagen, Talseth, & Fagerström, 2014). However, it is also recognized that harm minimization strategies may be advantageous for some, but not all patients (Pembroke, 2006; Pengelly et al., 2008). Indeed, a recent qualitative study suggests that some mental health practitioners regard the use of harm minimizing strategies for self-harm as potentially useful (at least in

inpatient settings) but others voiced concerns about their use, in terms of increased risk and escalating self-harm (James, Samuels, Moran, & Stewart, 2017). It is pertinent to note that: (1) this study considered harm-reduction and damage limitation strategies, as opposed to the sensation or process proxies for self-harm considered within the current study, and (2) the majority of staff who took part in the research had no direct experience of using harm minimization approaches.

What is clear from our findings is that harm minimization strategies (as sensation or process proxies) alone are perceived as neither effective nor sufficient in helping a young person to cope with their self-harm. This potentially questions how appropriate it is to characterize these harm minimization strategies as "harm minimizing." Drawing together the quantitative and qualitative findings, there is evidence that some young people used harm minimization strategies as a form of self-harm. How young people *perceive* these strategies is also important in relation to their willingness to engage with support services; being repeatedly advised to try strategies that do not seem to work can undermine a young person's confidence in support/services which may in turn impact upon future help-seeking. Given the dearth of research on this topic, there is a pressing need for further work to determine if harm minimization can be an effective approach, for whom and how best to do this.

Given that there is no safe overdose (National Collaborating Centre for Mental Health, 2011), it was concerning to see a lack of understanding and apparent incongruence between perceptions of dangerousness and the potential toxicity/lethality of overdoses with medication. When harm minimization strategies are recommended to young people, they must be accompanied by clear guidance on utility and safety which emphasizes that there is no such thing as a safe overdose. If this message fails to reach even a handful of at-risk young people (as was apparent in this study) the consequences could be extremely serious. Future qualitative research would allow more in-depth examination of young peoples' perceptions of medicine overdoses and levels of danger.

Limitations

We present findings from secondary analyses of data that were not collected to specifically examine harm minimization. Secondary analysis of qualitative data on self-harm can provide valuable insights into the clinical needs and experiences of young people who self-harm (Owens et al., 2015). One limitation of the current study is that we did not collect data regarding *how* harm minimization strategies were discussed with young people (e.g., what claims of effectiveness versus harm were made) and what other (if any) supports were offered in tandem. Clinicians have stressed that harm minimization strategies should not be used simply as a stand-alone self-help strategy but as a monitored part of an ongoing collaborative care plan (Pengelly et al., 2008). However, the extent to which this is reflected in clinical practice is an important question which remains unaddressed. Harm minimization may also have been encountered outside of clinical services; the use of harm minimization strategies for self-harm is advocated for in readily available sources of information regarding self-harm management and recovery in the public sphere (e.g., websites, self-help sheets, support groups). We do not know what percentage of our sample are "hidden," in that they have not presented to medical or mental health services

for self-harm, and it is unclear whether these dynamics affect views on harm minimization strategies. Future research may also seek to elucidate whether characteristics such as an individual's gender, age and self-harm history (frequency, duration, methods, etc.) affects views on harm minimization. It is not known what proportion of the sample was psychology undergraduates. It is also not known what, if any, impact this may have had on participants' views.

The secondary analysis of the survey data focused on open-ended responses requested when the "other" response category was selected in relation to self-harm. For this reason, the relative number of responses relevant to harm minimization was (arguably) low, but it is important to emphasize that these responses relating to harm minimization were also totally unsolicited. This suggests that the use of harm minimization strategies as a form of self-harm is an important issue for some young people who self-harm. Given the dearth of evidence on harm minimization for self-harm, this secondary analysis provides converging evidence on the limitations of some strategies and a compelling argument for more targeted research. It also addresses the call for studies exploring patients' experiences of harm minimization (National Collaborating Centre for Mental Health, 2011).

Both samples reported relatively frequent repetition of self-harm, which could have implications for the suitability of the use of harm minimization strategies. However, it should be noted that NICE guidance currently recommends such strategies for repeated self-harm (regardless of frequency, duration or method of self-harm) in the absence of evidence regarding effectiveness (National Collaborating Centre for Mental Health, 2011).

Implications

Those with lived experience of self-harm assert that engaging with and exploring distress is paramount to recovery, and failing to do so prevents the development of alternative coping (Shaw & Shaw, 2007). Providing someone with information about reducing physical harm through sensation or process proxies, in the absence of additional therapeutic input, is inadequate as it neither addresses the underlying meanings of self-harm nor acknowledges the distress experienced. Although harm minimization strategies as an adjunct to ongoing support might be useful and afford an individual the choice to reduce medical harms, overreliance on harm minimization strategies may direct focus away from core psychological factors and send a dismissive and potentially harmful message to young people accessing services for self-harm (Townsend, 2014).

In conclusion, we would assert that 1) harm minimization strategies should not be offered in (therapeutic) isolation, 2) if suggested, then the use of such strategies must be monitored, and 3) for some individuals, these strategies will certainly not be helpful and could even be harmful. Harm minimization for self-harm is, undeniably, a thorny issue. Indeed, there are wider debates about promoting "safe" or acceptable self-harm and the self-management of self-harm that are beyond the scope of our data. Nonetheless, harm minimization strategies for self-harm are widely available and endorsed by clinical services, often as a "common sense" approach. In the absence of any compelling research evidence, the findings of our study raise serious concerns about their current use in clinical practice. Harm minimization strategies for self-harm must be presented within a wider support

context and should be monitored. Balanced and appropriate guidance regarding their efficacy must be given along with the strongest caveat that there is no way to safely self-poison.

AUTHOR NOTE

Ruth Wadman, Self-Harm Research Group, School of Psychology, University Park, University of Nottingham, Nottingham, UK; Department of Health Sciences, The University of York, York, UK.

Emma Nielsen, Self-Harm Research Group, School of Psychology, University Park, University of Nottingham, Nottingham, UK.

Linda O'Raw, Self-Harm Research Group, School of Psychology, University Park, University of Nottingham, Nottingham, UK.

Katherine Brown, Self-Harm Research Group, School of Psychology, University Park, University of Nottingham, Nottingham, UK.

A. Jess Williams, Self-Harm Research Group, School of Psychology, University Park, University of Nottingham, Nottingham, UK; Institute for Mental Health, School of Psychology, University of Birmingham, Edgbaston, Birmingham, UK.

Kapil Sayal, Division of Psychiatry & Applied Psychology, School of Medicine, University of Nottingham, Nottingham, UK.

Ellen Townsend, Self-Harm Research Group, School of Psychology, University Park, University of Nottingham, Nottingham, UK; Department of Health Sciences, The University of York, York, UK.

Correspondence concerning this article should be addressed to Emma Nielsen, Self-Harm Research Group, School of Psychology, University Park, University of Nottingham, Nottingham, NG7 2RD, UK. Email: emma.nielsen@nottingham.ac.uk

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ORCID

Ruth Wadman http://orcid.org/0000-0003-4205-0631
Emma Nielsen http://orcid.org/0000-0002-6550-9487

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